



- NOTE :**
- AFTER ERECTION AND PRIOR TO THE CONNECTION OF ANY OVERHEAD EARTHWIRE THE RESISTANCE OF THE BUTT EARTH SHALL BE MEASURED BY TESTING BETWEEN THE BUTT EARTH AND THE REMOTE EARTH. IF THE REQUIRED EARTH RESISTANCE AS SHOWN ON THE LINE SCHEDULE IS NOT ACHIEVED, ADDITIONAL EARTHING IS TO BE INSTALLED AS SHOWN UNTIL THE SPECIFIED VALUE OF RESISTANCE IS OBTAINED.
 - WHERE PRACTICAL, ADDITIONAL EARTHING CONDUCTOR RUNS ARE TO BE PARALLEL AND UNDER THE OVERHEAD LINES.
 - MULTIPLE POLE STRUCTURES ARE TO BE BONDED TOGETHER USING THE SAME CONDUCTOR AS SPECIFIED FOR THE POLE STRUCTURE EARTHING.
 - ENSURE THAT A 15kg BAG OF EARTHING COMPOUND HAS BEEN SPREAD EVENLY OVER THE BOTTOM OF THE HOLE BEFORE THE POLE IS ERECTED AND CONCRETED. THIS WILL ENHANCE THE ELECTRICAL CONNECTION BETWEEN THE POLE BUTT EARTH AND THE NATURAL GROUND.
 - A TEMPORARY EARTH IS TO BE USED WHEN TESTING BUTT/ADDITIONAL EARTH. RESISTANCE OF TEMPORARY EARTH NOT TO EXCEED 30 OHMS. THE ABOVE GROUND EARTH FERRULE MAY BE USED AS A TEST POINT FOR MEASURING OF THE POLE EARTH RESISTANCE. THIS RESISTANCE IS NOT TO EXCEED THAT SHOWN IN THE LINE SCHEDULE.
 - SELECTION OF EARTH CONDUCTOR SIZE.
132kV AND 66kV CONSTRUCTIONS
 POLES LOCATED WITHIN THE SUBSTATION YARDS ARE TO BE 19/3.00 (134mm²) COPPER CONDUCTOR.
 THE EARTH CONDUCTOR FOR ALL OTHER POLES TO BE 19/1.53 (35mm²) COPPER CONDUCTOR.
33kV CONSTRUCTIONS
 THE SIZE OF THE EARTH CONDUCTOR IS TO BE REFERRED TO PROTECTION DESIGN FOR ASSESSMENT.

CONSTRUCTION ISSUE

MATERIAL REQUIRED FOR ADDITIONAL EARTHING

ITEM	DESCRIPTION	DRG.No.	STOCK CODE	ARR-1	ARR-2	ARR-3	A1	A2	A3
				QTY					
7	ROD - EARTHING, 1800x15mm, TAPERED		H31631				2	2	2
6	CONNECTOR - EARTHING, 16 TO 70mm ²		H31699				2	2	
	CONNECTOR - EARTHING, 120mm ²		H31681						2
5	WASHER - FLAT, M12, STAINLESS STEEL	518081	49429	2	2	2			
4	WASHER - SPRING, M12, STAINLESS STEEL	518082	143859	2	2	2			
3	SCREW - SET, M12x25mm, STAINLESS STEEL		44693	2	2	2			
2	LUG - CRIMP, 19/1.53 COPPER, Ø12mm HOLE		H20501	2					
	LUG - CRIMP, 19/2.00 COPPER, Ø12mm HOLE		H20527		2				
	LUG - CRIMP, 19/3.00 COPPER, Ø12mm HOLE		H20535			2			
1	CONDUCTOR - 19/1.53 COPPER EARTHING ANNEALED		H105916	A/R				A/R	
	CONDUCTOR - 19/2.00 COPPER EARTHING H.D.		H13530		A/R				A/R
	CONDUCTOR - 19/3.00 COPPER EARTHING H.D.		H13661			A/R			A/R

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE DO NOT SCALE

CAD DRAWING DO NOT MANUALLY AMEND	A AMENDMENTS	0 INITIAL ISSUE	DWN: P.S., CHKD:P.A.S. B DATE: 6-9-94 NOTE: 1 AND ITEM 6 AMENDED.	AUTH'D BY: P. SUMNER	DWN: PMC, CHKD: G.S. 03 DATE: 19-01-01 PART LIST UPDATED TITLE BLOCK UPDATED	AUTH'D BY: G. SKINNER	DWN: PATRICIA RIOS CHKD: PHIL JONES 4 DATE: 05/10/2006 AMENDED TO INCLUDE STEEL POLES. DRAWING REFERENCES UPDATED.	AUTH'D BY: STEPHEN CONNOR
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ASSOCIATED DRAWINGS	
HV CONC/STEEL SINGLE POLE STRUCTURE BUTT EARTHING ARR.	520209

EnergyAustralia

DESIGN
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Enerserve A Business of EnergyAustralia

SCALE	1:10
DESIGNED	-
DRAWN	PETER SAUNDERS
CHECKED	-
APPROVED	I NICHOLS
DATE	23/08/93
PRJTRK No.	-
PROJECT NUMBER	STD

STANDARD CONSTRUCTION
HIGH VOLTAGE CONCRETE/STEEL
MULTIPLE POLE
STRUCTURE BUTT EARTHING
ARRANGEMENT

DRAWING No. 520210 SHEET 01 AMD 4 SIZE A2